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One World. One Smart Choice.™

CINE VCLX/2 CHARGER

Only for use with CINE VCLX/2 battery

Owner's Manual

7595-0339 Rev. B

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INTRODUCTION

The CINE VCLX/2 charger is a three (3) hour fast charger designed specially for the CINE VCLX/2 battery system. It incorporates all of the Logic Series® circuits that are employed in every Anton/Bauer charger. The InterActive® charge programming provides all charge termination and protection routines for safe, reliable, chemistry independent charging.

Like all Anton/Bauer chargers, everything is automatic. Once a battery is plugged into the charger, it will automatically go into the charging mode.

FEATURES

- Three (3) hour charge time
- Red and Green status LED's
- Wide Range Input (100-240vac 50/60Hz)
- Six (6) Independent Charge Termination Systems
- Lightweight (2.5lbs.)

SAFEGUARDS

Power Sources: This unit was designed to operate at mains voltages from 100 to 240 Volts AC, 50-60 Hz.

Important: When powering charger using a generator, the generator must produce a sine wave or modified sine wave output, otherwise charger may be damaged.

Risk of Electrical Shock: Refer servicing to qualified service personnel.

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

GROUNDING/EARTHING

IMPORTANT WARNING: THIS APPARATUS MUST BE EARTHED.

To ensure safe operation, the three pin plug supplied must be inserted only into a standard three-pin power point which is effectively grounded through the normal household wiring. Extension cords used with the equipment must be three-conductor and be correctly wired to provide connection to earth ground. Improperly wired extension cords are a dangerous electrical hazard.

The fact that the equipment operates satisfactorily does not imply that the power point is properly grounded and that the installation is completely safe. If any doubt exists about the correct grounding of the power point, consult a qualified electrician.

IMPORTANT: The wires in this mains lead are colored in accordance with the following code:

Green and Yellow	Earth
Blue	Neutral
Brown	Live

CHARGING

As with all Anton/Bauer chargers, charging with CINE VCLX/2 charger is fully automatic. Attach the CINE VCLX/2 battery to the CINE VCLX/2 charger and it will automatically determine the appropriate charge routine and execute it.

APPLICATIONS

NOTE: A battery can remain on an Anton/Bauer charger indefinitely.

The CINE VCLX/2 charger incorporates the exclusive InterActive communication between battery and charger, which allows the charger to identify an Anton/Bauer battery when attached and determine the precise charge routine for that battery under the prevailing conditions.

WARNING: USE OF THIS CHARGER WITH ANY BATTERY NOT MANUFACTURED BY ANTON/BAUER MAY RESULT IN BATTERY DAMAGE AND CAUSE RISK OF FIRE OR PERSONAL INJURY. ANTON/BAUER ACCEPTS NO RESPONSIBILITY FOR ANY INJURY OR DAMAGE ASSOCIATED WITH THE USE OF BATTERIES NOT MANUFACTURED (OR BATTERIES SERVICED OTHER THAN) BY ANTON/BAUER. SUCH USE WILL VOID ANY WARRANTY.

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THREE STAGE CHARGING METHODOLOGY

In general, the CINE VCLX/2 charger will deliver a **three stage charge routine** to each battery.

1. **STAGE ONE** will deliver a high rate charge matched to the capabilities of the battery. During this stage, six separate cutoff methods are in operation, simultaneously, ensuring the fastest, safest charge for that battery:

   TCO - Temperature cutoff which stops the Stage one charge precisely when a temperature indicative of full charge is reached;

   Dt/dT - A microprocessor based algorithm which measures a rise in temperature over a specific time, very accurately indicating full charge.

   -ΔV - A method to determine the end of stage one charging by identifying a characteristic "reverse slope" of a cell. Since this characteristic can be disguised by the age, temperature and the number of the cells in a battery, it can never be employed alone;

   CCO - This method requires the identification of the particular battery size (capacity) and chemistry, an exclusive Anton/Bauer Logic Series feature. The charger determines the maximum charge time for the particular battery and uses this information to ensure that overcharge conditions are avoided.

   FUL - This determination is made when a fully charged battery is returned to a charger within specified parameters of time, temperature, and battery voltage. The battery communicates its fully charged condition and the charger confirms the parameters and immediately indicates a fully charged condition, without additional verification.

   TEMPERATURE COMPENSATED VCO – Optimizes VCO cutoff to operate only within certain temperature parameters.

In addition, a voltage limiting constant current Stage One routine address the critical parameters of li ion batteries.

2. **STAGE TWO** charging is a BALANCING or "stabilizing" mode which calculates each battery pack type to offset any imbalance of the battery's cells, created by unequal self discharge or any capacity mismatch of the individual cells in the pack. This stage can vary in duration from zero to as much as 16 hours, depending on the condition of the battery. A battery will typically leave Stage Two in 2-4 hours under average operating conditions.

3. **STAGE THREE** charging is the Anton/Bauer exclusive Lifesaver® maintenance mode. This patented pulse routine keeps batteries fully charged, free from self-discharge indefinitely without damaging heat associated with a so-called "trickle charge".

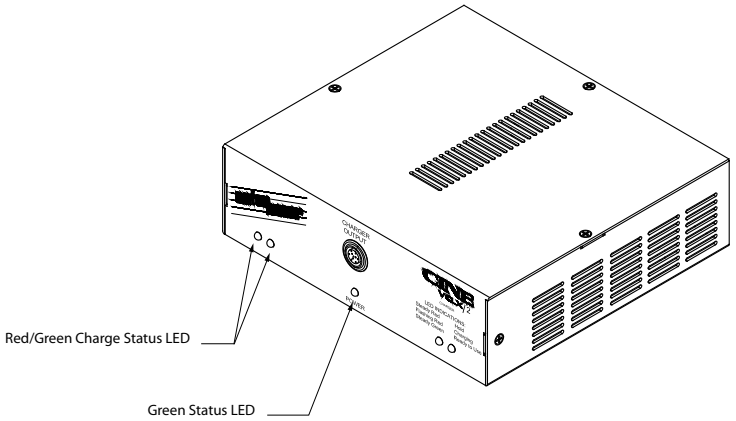
4. **NOTE: Batteries may be kept on a charger until ready for use. The Lifesaver mode will keep them 100% charged.**

LED INDICATIONS

The CINE VCLX/2 charger has two sets of LEDs.

The red and green charge status LED's indicate the charging status of the battery. The following table identifies all of the LED indications and their meaning.

LED INDICATION	MEANING
Alternating Red & Green	Indicates that the CINE VCLX/2 charger is evaluating the battery and/or communicating with a DIGITAL battery, loading battery parameters and determining the appropriate charge routine. A low voltage (<11V) battery will cause this indication to continue until the battery reaches safe charging voltage.
Steady Red	Indicates that the battery is being held by the charger to stabilize an out-of-range temperature condition.
Flashing Red	Indicates that the battery is currently under Stage One charge.
Steady Green	Indicates that the battery is READY and in Stage Two or Three Lifesaver mode.



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FCC NOTICE

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This equipment has been approved by one or more agencies. All changes and/or modifications not expressly approved by Anton Bauer, Inc. could void the users' warranty and authority to operate this equipment. There are no serviceable parts in this equipment.

SPECIFICATIONS

Size	2.25" x 5.75" x 6.25"
Weight	2.5lbs. (1.13kg)
Input Voltage	100-240VAC 50/60 Hz
Output Voltage	24 VDC 10 +/- 10%
Rated Power	85 watts
Fuse Rating	3 amps, 250V

FUSE/TYPE REPLACEMENT

The fuse of the CINE VCLX/2 charger is a PCB mounted device which should only be replaced by a qualified service technician.

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LIMITED WARRANTY

This one (1) year limited warranty for the product specified in this document ("Product") is given by Anton/Bauer, Inc. ("Anton/Bauer"), 14 Progress Drive, Shelton, Connecticut 06484. If you (the purchaser of the Product from Anton/Bauer, or the person for whom the Product was purchased, if it was a gift) have any questions regarding Product applications, Product specification, or to obtain warranty service on this or any Anton/Bauer product, contact the company at the address above.

THIS PRODUCT MUST BE REGISTERED WITH ANTON/BAUER WITHIN 30 DAYS OF PURCHASE TO ASSURE WARRANTY COVERAGE. TO REGISTER YOU MAY EITHER:

(1) MAIL WARRANTY REGISTRATION CARD or
(2) REGISTER ON LINE AT www.antonbauer.com

The liability of Anton/Bauer hereunder is expressly limited to a claim for repair or replacement of the Product or as otherwise stated herein at Anton/Bauer's sole discretion. Notice of any claim under this warranty shall be delivered to Anton/Bauer during the period of the warranty and the Product shall be returned with its packaging promptly, at your expense, to an Anton/Bauer Customer Support Center or to the address above. Upon receipt of the Product and a record of your compliance with the conditions of this warranty, Anton/Bauer will repair or replace the Product and return it to you, or issue a credit, as applicable. You are responsible for all shipping and handling charges to and from authorized facility.

THIS WARRANTY DOES NOT APPLY TO AND IS VOID IN THE CASE OF DEFECTS OR DAMAGE RESULTING FROM ACCIDENTS, DISASTER, NEGLECT, MISUSE, IMPROPER INSTALLATION, IMPROPER OR UNAUTHORIZED SERVICE OR MAINTENANCE, UNAUTHORIZED REPLACEMENT PARTS OR ATTACHMENTS; OR DYSFUNCTION OR MALFUNCTION OF, OR CAUSED BY, ANY OTHER PRODUCT OR DEVICE. **Misuse includes any use of the Product in other than its intended application, including the use of this Product with any charging device or accessory not manufactured by and/or specified by Anton/Bauer. This warranty does not cover, and Anton/Bauer assumes no responsibility for, any equipment or devices used in conjunction with the Product.**

ANTON/BAUER DISCLAIMS ANY LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY WRITTEN OR IMPLIED WARRANTY OF THE PRODUCT. UNDER NO CIRCUMSTANCES WILL ANTON/BAUER BE RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

This Warranty is to be construed and enforced in accordance with the law of the State of Connecticut, including the provisions of the Uniform Commercial Code as adopted and from time to time amended in the State of Connecticut, and not the Convention for the International Sale of Goods. This choice of Connecticut law is exclusive of any Connecticut law that would require reliance on any law foreign to Connecticut. Should any action of law or in equity be brought by any person under this Warranty, such action shall be brought only in the United States District Court for the District of Connecticut, or in any Superior Court in Fairfield County, Connecticut, USA. Some states do not allow limitations on how long a warranty lasts, so the time period limitation herein may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights and you may have other legal rights which may vary from state to state.

Use of unauthorized equipment in conjunction with Anton/Bauer products constitutes misuse under our warranties and may limit or void those warranties. Anton/Bauer does not authorize, condone, recommend, or otherwise assume any liability or responsibility resulting from the use of any battery, charger, or accessory made by Anton/Bauer with any battery, charger or accessory not manufactured, produced or sold by Anton/Bauer. Anton/Bauer only authorizes the use of original Anton/Bauer products with this Product. Use only original Anton/Bauer equipment with this Product.

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